November 11, 2019 Information Request

BCI GDC Project

P19-0088

Prepared for:

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Chief Executive Officer
BCI, Inc.

Submitted by:

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December 02, 2019

Prepared by:

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Principal

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Principal

Background

The United States Environmental Protection Agency (USEPA) conducted a planned inspection on October 1 and 2, 2019 of three (3) facilities operated by Bulk Chemicals, Inc. (BCI). The stated reason for the inspection contained within a September 17, 2019 letter authored by Michael Welsh, PE of the USEPA's Region 3, Oil and Prevention Enforcement Section, Enforcement and Compliance Assurance Division was to assess the compliance of the Blandon, Shoemakersville, and operated by BCI pursuant to the General Duty Clause (GDC) and Risk Management Program (RMP) requirements stipulated in 40 CFR 112(r)(1) and (r)7, respectively.

The USEPA activity appears to be the result of a reportable release of nitric acid at the Bulk Chemicals, Inc. (BCI) facility located in Shoemakersville, Pennsylvania on June 9, 2019. The facility was damaged as a result of the release and is currently not operational. Plans are underway to repair the facility and operate it as the company's primary blending location as it was in the past.

After the inspections there have been numerous meetings and correspondences between USEPA and BCI, in which it has reportedly been stated that USEPA would like the facilities to be constructed and operated in accordance with the National Fire Protection Code (NFPA) 400 and 30.

Sovereign Environmental Group, Inc. (Sovereign) has been retained by BCI to assist in environmental matters related to the history described above.

Current Project Status & Results

Sovereign received an electronic mail from Mike Rowley on November 11, 2019. In that email, Mr. Rowley requested that Sovereign opine on:

- Non-responsive based on revised scope.
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- 3) Additional questions regarding NFPA ventilation requirements/rates;
- 4) "Is there any issue with the General Duty Clause and having bulk storage tanks on site (alkaline and acids in relatively close proximity)?"; and
- 5) The acceptability of double-walled aboveground storage tanks (ASTs) pursuant to the GDC (a verbal question posed to Sovereign on site).

On November 13, 2019 Sovereign received information via electronic mail from Mr. Rowley consisting of email trains and documents providing some of the information needed to answer these questions. However, the renderings provided were outdated and not necessarily accurate. In addition, the Team wanted to determine the current state of each operation and discuss the planned activities for future operation with BCI.

Sovereign's team visited the Shoemakersville, Shoemakersville, facilities on November 14, 2019. As part of the team's activities, we observed Non-responsive based on revised scope. Fand the proposed blending operation in the Lower Warehouse being rebuilt at Shoemakersville to address the questions posed.

Findings

With the exception of the stipulated questions and answers regarding ventilation rates (where USEPA erroneously refers to NFPA 400 (2013) and NFPA 30 (2015), Sovereign's reviews are based on the latest version of each document which were issued in 2019 and 2018, respectively.

Finding 1: Non-responsive based on revised scope.

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Finding 3: Non-responsive based on revised scope.

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A General Discussion of the GDC that applies to Findings 4 & 5 below

The GDC applies to any stationary source producing, processing, handling, or storing regulated substances or other extremely hazardous substances. Facilities subject to the GDC are responsible for knowing the hazards posed by the chemicals they have, assessing the impacts of possible releases from their facilities, designing and maintaining a safe facility to prevent accidental releases, and minimizing the consequences of accidental releases when they occur.

It is important to understand that the GDC is, by and large, a performance-based concept and does not prescribe detailed compliance activities on the regulated community, but rather uses the power of a broad (and fluid) mandate. GDC regulated facilities meet their obligations by adopting any relevant industry codes, practices, or consensus standards; developing a tailored accident prevention program; and maintaining an awareness of accidents or other incidents in their industry for the purpose of amending their practices, procedures, and/or operations.

Finding 4: "Is there any issue with the General Duty Clause and having bulk storage tanks on site (alkaline and acids in relatively close proximity)?"

The GDC doesn't directly address the storage of incompatibles in close proximity. Sovereign reviewed NFPA 400 and 30 as that is the directive BCI has received thus far from USEPA. In addition, Sovereign reviewed the aboveground storage tank regulations found in 25 PA. Code 245 and contacted the Pennsylvania Department of Environmental Protection (DEP) regarding the current application of those regulations to the tanks proposed by BCI in the Lower Warehouse.

NFPA

The information provided to Sovereign indicates that the Maximum Allowable Quantities (MAQs) will be exceeded in the proposed tanks and collectively the other vessels and containers that will store regulated chemicals in the space. Therefore, NFPA 400 and 30 do apply to the activities at Shoemakersville - Sections 6.1, 6.2, and 6.3 will apply to the

construction, operation, and protection of the rebuilt space and activities and therefore must be adhered to.

Section 6.1.12.2 requires no less than 20 feet of separation or the isolation of incompatible materials by a noncombustible partition that extends not less than 18 in above and to the sides of the material. There are several other references indicating that when incompatible materials are adjacent to each other in process areas, they shall have separate drainage, containment and secondary containment (no reference to separating the tanks or process in any way). There are also a number of references for specific situations with oxidizers and incompatibles in Chapter 15.

Pennsylvania Aboveground Storage Tank Regulations

According to PADEP, bulk tank proximity is not directly addressed, but left to fire and building code – BCI should plan for design distances or isolation of incompatible materials by noncombustible partitions as previously stated.

Finding 5: The acceptability of double-walled aboveground storage tanks (ASTs) pursuant to the GDC.

Again, there is no prescribed method of determining if a specific technology (e.g., double-walled ASTs) is allowable pursuant to the GDC, but rather codes, standards, and regulations. In this case pursuant to the direction received from BCI, Sovereign reviewed NFPA 400 and 30 and aboveground storage tank regulations found in 25 PA. Code 245 and contacted the Pennsylvania Department of Environmental Protection (DEP) regarding the current application of those regulations to the tanks proposed by BCI in the Lower Warehouse.

NFPA & PUCC

NFPA does not explicitly address the acceptability of secondary containment tanks; however, it implies that secondary containment tanks and systems are acceptable throughout NFPA 400 and 30.

The information provided to Sovereign indicates that the Maximum Allowable Quantities (MAQs) will be exceeded in the proposed tanks and collectively the other vessels and containers that will store regulated chemicals in the space. NFPA 400 and 30 will apply to the activities at Shoemakersville - Sections 6.1, 6.2, and 6.3 will apply to the construction, operation, and protection of the proposed double-walled tanks, as well as the other aspects of Shoemakersville, and therefore must be adhered to.

Our review of the Pennsylvania Uniform Construction Code indicates the same or similar requirements throughout (with the exception of not having the specific statement concerning the acceptability of the secondary containment tanks). We would not anticipate this to be an issue once the design and use of this type of tank are presented to a code official.

Pennsylvania Aboveground Storage Tank Regulations

Our findings also indicate that 25 PA. Code 245 applies as well to the tanks containing regulated materials (and the other tanks containing regulated materials in the space). In our discussions with DEP, they indicate that the holding tanks in question can be doublewalled and meet the requirements of both the secondary and emergency containment provisions as long as they are constructed to 25 PA. Code 245.612 standards.

Ostensibly, the ASTs must be managed, operated, and monitored pursuant to Subchapter G based on the information given.

Path Forward & Action Items

In Sovereign's opinion, USEPA is applying the GDC to BCI in two ways:

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Second, to ensure that when Shoemakersville is rebuilt and comes back on line that it is designed, operated, and maintained in a safe manner in accordance with existing applicable standards and regulations; that the hazards on site are known and addressed; and that the impacts and consequences of possible releases from the facility are managed and minimized.

Therefore, Sovereign believes that the future work undertaken should be bifurcated and addressed in parallel – that is, Non-responsive based on revised scope.

Non-responsive based on revised scope and design and development of the proposed blending operations at Shoemakersville.

Sovereign looks forward to assisting BCI with both projects.

responsive based on revised scope. responsive based on revised scope.

SOVEREIGN

Environmental Group

Robert A. Baines, Principal

Larry W. Johnson, PE, CIH, Principal

November 19, 2019

Michael Rowley Environmental Health and Safety Bulk Chemicals, Inc. 1074 Stinson Dr. Reading, PA 19605

Subject: Ventilation Rates at the

Dear Mike,

The two questions regarding the ventilation posed by Mike Welsh were:

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If you have any questions, please contact me or Bob.

Sincerely,

Larry W. Digitally eighed by Larry W. Solvenser Onc Crisis, Cr

Larry W. Johnson, PE, CIH